



The Hon Anthony Albanese MP

Deputy Prime Minister
Minister for Infrastructure and Transport
Minister for Broadband, Communications and the Digital Economy
Leader of the House



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The Hon John Murphy MP
Chair
Standing Committee on Petitions
PO Box 6021
Parliament House
CANBERRA ACT 2600



Dear Mr Murphy

Thank you for your letter dated 3 June 2013 to the Senator the Hon Stephen Conroy, the former Minister for Broadband, Communications and the Digital Economy concerning the petition recently submitted by residents of Churchill, Victoria about digital television reception in the area. On 1 July 2013, I was sworn in as the Deputy Prime Minister and Minister for Broadband, Communications and the Digital Economy. As I have portfolio responsibility for the matters the petition has raised, I have addressed them below. I apologise for the delay in responding.

The Australian Government understands the importance of free-to-air television to people living in regional and rural Australia, and has introduced policy and legislative measures to maximise viewers' access to digital television services. Providing equal television services to viewers throughout Australia is a central feature of the government's digital switchover program.

I am advised by the Digital Switchover Taskforce that residents of Churchill may be able to receive digital television services from a number of transmission sites around Churchill. I am also advised however, that depending on where residents live, coverage from these sites will vary from very good to poor. I will provide more detailed information about these transmission sites below.

Because of the complexity of the digital television reception situation in Churchill that results from the number of possible transmission sites residents might be receiving services from, it is essential that residents' antennas are optimised to receive the best signal available at their specific location.

The *mySwitch* tool on the Digital Ready website at www.digitalready.gov.au allows people to enter their addresses in order to find out which transmission site would provide the best reception based on their location. *mySwitch* is a web-based tool which has been developed by the Digital Switchover Taskforce to provide a wide range of information to viewers about digital television services in their area.

Churchill residents experiencing reception difficulties should consider contacting a Government Endorsed Antenna Installer to have their antenna installation assessed to ensure it is correctly set up for their location. A list of endorsed antenna installers in the Churchill area may be found in *mySwitch*.

Digital television services in Churchill

Churchill is located in the Gippsland switchover area of regional Victoria which switched to digital-only television services on 5 May 2011.

The main transmission site serving Churchill is located about five kilometres north-east of Churchill at the Mills Trig Point. According to *mySwitch*, the Mills Trig Point site provides very good coverage to the town of Churchill. Residents of Churchill with a correctly set up antenna should generally expect to have very good digital reception from this site.

There are a number of other transmission sites around Churchill that residents of Churchill may be able to receive services from, or may be trying to receive services from. These are located at:

- Jeeralang/Yinnar South, about five kilometres west of Churchill
- Mt Tassie (Latrobe Valley), about 17 kilometres south-east of Churchill
- Boolarra, about 15 kilometres south-west of Churchill
- Newborough, about 16 kilometres north-west of Churchill
- Trafalgar/Yarragon, about 28 kilometres west of Churchill
- Mt Dandenong (Melbourne), about 100 kilometres north-west of Churchill.

I am advised that many parts of Churchill may have good coverage from the Mt Tassie and/or Jeeralang/Yinnar South transmission sites. However, for most Churchill residents the best coverage would be expected to come from the Mills Trig Point site, and as long as their antenna installation is optimised to receive signals from there, they should have good reception. An endorsed antenna installer will be able to provide advice about the best source of digital television signals at a specific location and how to optimise reception.

I am also advised that the Boolarra, Newborough, Trafalgar/Yarragon, and Melbourne sites have not been planned to serve Churchill and coverage of Churchill from these sites would be moderate, at best, to poor. It is not recommended that Churchill residents try to receive digital services from these sites.

The most detailed information about local digital television services, including the expected coverage of transmission sites serving local areas and the frequencies services are transmitted on, is available from *mySwitch* on the Digital Ready website.

Churchill, Boolarra and Jeeralang/Yinnar South Single Frequency Network

The Churchill (Mills Trig Point), Boolarra and Jeeralang/Yinnar South transmission sites are part of a Single Frequency Network. This means that the transmitters at these three sites all simultaneously transmit the same signal over the same frequency channel.

In March 2012, following complaints from residents in the Boolarra area, broadcasters identified and fixed a technical problem that was affecting the operation of the Single Frequency Network (SFN). This problem would have been likely to cause reception problems for people receiving their digital television services from any of the three transmission sites in the network.

The broadcasters have maintained remote logging of the operation of the SFN since then and have not found any further problems.

Possible reasons for poor digital reception in Churchill

I am advised that the most likely explanation for poor digital reception in Churchill is that residents' antennas are not correctly set up to receive services from the transmission site that provides the best coverage at their location.

Digital television services commenced from the Churchill site in March 2010. Digital services did not start at the Boolarra, Newborough, and Trafalgar/Yarragon sites until late 2010 or early 2011. People in Churchill who were attempting to receive digital television services before March 2010 would have been trying to receive them from Mt Tassie (from which reception might be adequate) or Mt Dandenong (from which reception would be very poor).

Because of this, it would appear that many houses in Churchill have complicated reception systems with multiple antennas and masthead amplifiers. Unnecessary antennas can compromise the performance of an otherwise correctly set up receive antenna system. Apart from ensuring that their antenna is correctly set up to receive the best quality signal at their location, therefore, residents should remove any antennas that were previously used to receive services from other transmission sites but are no longer needed.

If residents have a masthead amplifier (booster) fitted to their antenna, this could also be contributing to poor digital reception. Masthead amplifiers are used in poor signal strength areas to boost the strength of a weak signal. If in the past residents were trying to receive digital transmissions from a distant transmission site, it is likely that they have a masthead amplifier installed.

Residents in Churchill would be unlikely to need a masthead amplifier to receive digital television services from the Mills Trig Point site. If they are now trying to receive digital services from this site and they have a masthead amplifier fitted, it is likely to be overloaded by the signal from Mills Trig Point. This will cause interference to their reception and, potentially, to their neighbours' reception also. Residents should seek advice about their specific situation from an endorsed antenna installer, but, in general, if they have a masthead amplifier fitted and they are receiving services from Mills Trig Point it should be turned off, and preferably removed.

Residents should also ensure they have good quality, low loss cabling, which is essential for good reception.

After residents have had their antenna installation optimised to receive the digital signals available at their location, they should retune their set-top box or digital television tuner. They may have to retune more than once to pick up the available channels in their area.

Because of the number of transmission sites around Churchill, if residents use auto tune (also known as auto scan, channel search, channel scan, auto program or full scan) to tune their reception equipment to available channels, they may find that this results in tuning to services that do not provide the best reception when they press the appropriate channel numbers on their remote control. This can happen even if their antenna is correctly set up to receive services from a local transmission site.

The reason for this is that when using auto-tuning in areas where there is more than one transmission site, it is difficult to determine which channels the receiving equipment has selected. The receiving equipment may not have selected the transmission site channels with the most reliable reception.

For example, the receiving equipment may pick up the Australian Broadcasting Corporation (ABC) signal from a transmitter some distance away and store it at channel two on the remote control. When it then picks up another ABC signal from a local transmitter, it will store it somewhere else (typically in the channel range 350-399). When the viewer presses channel 2 on their remote control, they will see the weaker, more distant, signal rather than the local, good quality signal.

This problem can be resolved by manually retuning a digital television or set-top box so that the channels that provide best reception are located under the right channel numbers on the remote control. An endorsed antenna installer will be able to provide advice about how to do this, or viewers can refer to their equipment manufacturer's instruction manual.

I am advised that removing antennas that are no longer needed may help avoid receiving multiple signals, and that this may reduce the need for manual tuning.


Another possible cause of reception problems could be an intermittent localised source of interference. Although this could be caused by any electrical equipment or appliances operating nearby, a common source of local interference is faulty masthead amplifiers. Masthead amplifiers can become unstable for a variety of reasons such as broken connections, water ingress, corrosion or short circuits. Faulty masthead amplifiers can radiate a relatively high level signal that causes interference to reception of the broadcasting channels in the vicinity of the faulty device, and radiating masthead amplifiers can result in making the digital television channel(s) completely unavailable in a radius of up to 300 metres of the faulty device.

Other problems with masthead amplifiers can include the gain being set too high, which can lead to signal overload and distortion, with an associated reduction of signal quality, or the installation of poor quality amplifiers, which were satisfactory for analog signals (which have less stringent requirements than digital signals), but not for digital.

If residents of Churchill are still experiencing reception difficulties after having done all that they reasonably can to improve their reception, including engaging the services of an endorsed antenna installer, and they believe that their problems might be related to intermittent interference from an unknown source, they may wish to contact the Australian Communications and Media Authority (ACMA). The ACMA has procedures in place to assist in the identification of sources of interference and resolution of the problem.

I trust this information will be of assistance to Churchill residents.

Yours sincerely


ANTHONY ALBANESE